

REMARKS

1. Applicant has amended the Abstract in accordance with the suggestions of the Examiner. As now written, the Abstract is believed to be definite and is less than one hundred and fifty (150) words.

2. Applicant has amended the specification in accordance with the suggestions of the Examiner. Since these changes are cosmetic, they are consistent with the specification as originally filed and do not involve the insertion of new matter.

3. Applicant has amended claims 23, 25, 28 and 30 in accordance with the suggestions of the Examiner. These changes are intended to correct informalities. They are consistent with the specification and drawings as originally filed.

4. Applicant has amended the claims to overcome the objections of the Examiner in paragraphs 5a-5d on page 4 of the Office Action. Applicant has eliminated such words as "additional" and "further" in the claims. Instead, applicant has given a numerical designation to each preamble, a numerical designation to each forward link parameter, a numerical designation to each reverse link parameter and a numerical designation to each set of data. Applicant respectfully submits that the claims as now written find support in the specification as originally filed.

5. If the Examiner still believes that the claims as now written do not find support in the specification as originally filed, applicant is prepared to amend the specification to provide such support. Applicant can assure the Examiner that any amendments to the specification will not constitute new matter since they will be supported by the specification and drawings as originally filed.

6. In paragraph 5d, the Examiner has questioned the use of the language "higher layer network" in claim 11. Applicant has amended claim 11 to make the claim definite. Applicant has incorporated into claim 11 the language at page 10, lines 6-14 of the specification.

7. The Examiner has questioned the language to "a first higher layer network" and a "second higher layer network" in claims 26 and 28. Applicant has amended claims 26 and 28 to make them definite. Applicant has also added a sentence to the specification

at page 10, line 14 to generalize the discussion in the paragraph on page 10, lines 6-14. Applicant respectfully submits that the discussion in this paragraph can be generalized on the basis of the discussion on pages 4-10 of the specification.

8. On page 6, lines 5-6 of the specification, applicant makes the following statements:

"Forward link parameters such as the parameters 32 are believed to be known in the art." (Underlining supplied.)

On page 7, lines 1 and 2 of applicant's specification, applicant makes the following statement:

"Reverse link parameter such as the parameters 44 in the preamble 34 are believed to be unknown in the art." (Underlining supplied.)

On page 6, lines 5-7 of the Office Action dated June 4, 2004, the Examiner states as follows:

"Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters." (underlining supplied).

The Examiner's statement is consistent with applicant's statement on page 6, lines 1-2 of the specification that reverse link parameters such as the parameters 44 in the preamble 34 "are believed to be unknown in the art."

The statement by the Examiner on page 6, lines 5-7 of the Office Action also establishes that applicant has made an invention of some importance and that the claims define applicant's invention over the prior art. Contrary to the position of the Examiner, applicant does not disclose a system in which a first station provides a first forward link parameter in transmitting the first preamble and data to a second station and in which the second station subsequently transmits a second preamble and data to the first station, the second preamble including a second forward link parameter corresponding to the first

forward link parameter. Instead, applicant uses a reverse link parameter in each station as the forward link parameter in the other station. This is recited in all of applicant's claims.

Applicant's system constitutes a significant advance in the art. In applicant's system, when each individual station transmits data to the other station, it requests the other station to transmit from the other station data in the format or with parameters that are conducive to the optimal reception by the individual station of data from the other station. In this way, the adverse effects of multi-path transmission on the ability of the receiving station to understand and process the data transmitted from the transmitting station are minimized. The adverse effects of multi-path transmission between the stations 12 and 16 are discussed in the full paragraph on page 8, lines 3-15 of the specification.

9. Claims 1, 2, 6, 7, 12, 14-25, 27, 34 and 35.

Claims 1, 2, 6, 7, 12, 14-25, 27, 34 and 35 have been rejected under 35 USC 102(a) as being anticipated by Oler et al. patent 6,031,866. As now written, claims 1, 2, 6, 7, 12, 14-25, 27, 34 and 35 are allowable over Oler for certain important reasons. A primary reason that Oler does not disclose a system in which each preamble from each station includes forward link parameters and reverse link parameters and in which the reverse link parameters from the station constitute the forward link parameters in the next preamble from the other station. This is recited in all of the claims.

a. With regards to claim 1, the Examiner states as follows at the bottom of page 7 to page 8, line 4 of the Office Action dated March 4, 2004:

"With regard to claim 1, Oler et al. discloses in (Figs. 1 and 2) an equalization system wherein the method of communicating between first and second stations, includes the steps of: providing at the first station a preamble including reverse link parameters individual to the first station and providing data after the preamble, transmitting the preamble and the data from the first station to the second station, receiving the preamble and the data at the second station and recovering the data at the second station, providing a preamble and data at

the second station, the preamble including forward link parameters in accordance with the reverse link parameters received at the second station from the first station, and transmitting the preamble and data from the second station to the first station (abstract, col. 8, lines 34-60, col. 9, lines 24-26, 30-32, 38-42)."

Applicant has studied the abstract and column 8, lines 34-60 and column 9, lines 24-26, 30-32 and 38-42 and other portions of the Oler specification carefully and has not been able to find any disclosure in which each station has a preamble, including forward link parameters and rear link parameters and in which the rear link parameters of each station become the forward link parameters of the other station. Applicant would accordingly appreciate it if the Examiner would specify in the next Office Action precisely where Oler specifically states that the rear link parameters of each individual station in each transmission of preamble and data from the individual station to the other station become the forward link parameters in the next transmission of preamble from the other station to the individual station. All of the other claims (2, 6, 7, 12, 14-25, 27, 34 and 35) are allowable over Oler for the same reasons.

b. Claim 6 is dependent from claim 1 and is accordingly allowable over Oler for the same reasons as claim 1. Claim 6 is further allowable over Oler because Oler does not disclose the following steps:

- i. providing at the second station a channel estimation from the preamble and the data received at the second station,
- ii. providing a reverse link parameter assessment at the second station in accordance with the data received at the second station and the channel estimation at the second station,
- iii. formatting a frame at the second station in accordance with the reverse link parameters assessment at the second station and the data to be transmitted at the second station and the forward link parameters.

Although the stage 130 in Figure 2 of Oler may be designated as an estimator, it does not perform the step recited in lines 2 and 3 of applicant's claim 6. Furthermore, the stages 144 (Fig. 2) and 44 (Fig. 1) in Oler do not perform the step recited in lines 4 and 5 of applicant's claim 6 and the stages 118 (Fig. 2) and 18 (Fig. 1) in Oler do not perform the step recited in lines 6 and 7 of applicant's claim 6. In addition, the portions of the Oler specification in column 8, lines 34-60 and in column 9, lines 24-26, 30-32 and 38-42 do not disclose the step recited in applicant's claim 6, lines 8-10.

c. With respect to claim 7, the Examiner states the following on page 7, lines 12-14 of the Office Action.

"Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters."

This language is similar to the language quoted by applicant above from page 6 of the Office Action with respect to claim 1. This language does not disclose applicant's invention. In applicant's invention, the second station does not use the forward links parameters from the first station as the reverse links parameters in the second station. In applicant's invention, the second station uses the reverse links parameters from the first station as the forward links parameters in the second station. The Examiner's statement (quoted above) proves that Oler does not disclose applicant's invention.

d. Claim 12 is allowable over Oler for the same reasons as discussed above with respect to claim 6.

e. With respect to claim 14, the Examiner states in paragraph 5 of the Office action dated March 4, 2004:

"Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters." (Underlining supplied).

Applicant's system does not use the same forward link parameters from the first station as reverse link parameters for the second station. In contrast, applicant uses the reverse link parameters from the first station as the forward link parameters for the second station.

Either Oler discloses what the Examiner has stated, in which case Oler is not a good reference against applicant's claim, or the Examiner has misinterpreted Oler. Since the Examiner is considered to be a person skilled in the art (not a person of ordinary skill in the art), if the Examiner has misinterpreted Oler, Oler has not provided a disclosure with sufficient clarity and detail in his patent to a person of ordinary skill in the art to constitute a proper reference against applicant's claims.

f. According to the Examiner with respect to claim 16 in paragraph 8 on page 8 of the Office Action, Oler "further discloses wherein the forward link parameters include information relating to at least one of modulation type, code rate of a forward rate correction and spreading factor of the signals in the packet." In support of the Examiner's position, the Examiner has cited col. 1, lines 22-26 and column 10, line 29 of the Oler specification. Applicant does not see any disclosure in Oler that Oler provides forward rate parameters which include information relating to at least one of modulation type, code rate of a forward rate correction and spreading factor of the signals in the packet. This causes claim 16 to be allowable over Oler.

g. The Examiner has cited the stages 144 and 118 in Figure 1 of Oler and column 1, lines 22-26 and column 8, lines 34-60 against claim 17. Claim 17 recites that the first reverse link parameters include information relating to at least one of modulation type, code rate of a forward error rate correction and spreading factor of signals in a preamble in a packet to be transmitted from the second station to the first station. Applicant respectfully submits that Oler does not disclose in the drawing and specification what applicant recites in claim 17.

h. As with all of the other claims in the application, claim 18 is allowable over Oler because Oler does not disclose a system in which reverse links parameters in the preamble for each individual station become the forward link

parameters in the preamble for the other station. Furthermore, Oler does not disclose a system in which a training sequence included in the first preamble includes sequences for at least one of sequence synchronization, channel estimation and delay profile.

i. Claim 19 is allowable over Oler for the cumulative reasons specified above in claims 16, 17 and 18.

j. Oler does not disclose a system in which reverse link parameters in the preamble for each individual station become the forward link parameters for the preamble in the other station. According to the Examiner in discussing claim 20, the forward link parameters are disclosed in Oler at 126 and 142 and the reverse link parameters are disclosed in Oler at 144 and 118. The stages 126, 142, 144 and 118 in Oler do not disclose applicant's invention as specified above in the first sentence of this paragraph 8(j).

Applicant notes that the Examiner has made the following statement on page 10, lines 4-6 of the Office Action with respect to claim 20:

"Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters."

As applicant has previously indicated, applicant does not use a forward link parameter at each station as the reverse link parameter at the other station. Instead, applicant uses the reverse link parameter at each station as the forward link parameter at the other station.

k. Claim 21 is allowable over Oler for the same reasons as claim 20 because it is dependent from claim 20.

l. Claim 22 is also dependent from claim 20 and is accordingly allowable over Oler for the same reasons as claim 20. Claim 22 is also allowable over Oler because Oler does not disclose that each training sequence includes at least one of synchronization, channel estimation and delay profile.

m. Claim 23 is allowable over Oler because Oler does not disclose that each of the stations is constructed to provide as its forward link parameters the reverse link parameters received from the other station. Applicant does not believe that Oler discloses this in the abstract, in column 8, lines 34-60 or in column 9, lines 24-26, 30-32 or 38-42. Applicant respectfully suggests that the Examiner should specify exactly where Oler discloses this in the abstract or the portions of the specifications cited by the Examiner in paragraph 15 on page 10 of the Office Action. Applicant respectfully submits that such specific citations are particularly appropriate since the Examiner has stated at the top of the page 11 of the Office Action:

"Oler discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters." (Underlining supplied.)

n. Claim 24 is allowable over Oler for the same reasons as claim 23 because it is dependent from claim 23.

o. Claim 25 is dependent from claim 23 and is accordingly allowable over Oler for the same reasons as claim 23. Claim 25 is also allowable over Oler because Oler does not disclose that each of the stations includes, in the forward link parameters transmitted to the other station, signals for facilitating the recovery of the data transmitted by the other station and for facilitating the processing of the recovered signals. Applicant respectfully submits that the stages 42 and 142 in Oler do not perform these functions. Applicant also respectfully submits that Figures 1 and 2 and column 9, lines 24-26, 30-32 and 38-42 do not disclose these features.

p. Since claim 27 is dependent from claim 23, it is allowable over Oler for the same reasons as claim 23. Claim 27 is also allowable over Oler since Oler does not disclose that the forward link parameters for each individual station include at least one type of modulation, code rate of forward error corrections and spreading factor of progressive frequencies used in transmitting successive packets of signals from the individual station to the other station. Applicant respectfully requests the Examiner to

indicate where in column 9, lines 24-26, 30-32, 38-42 and 46-47 and in column 11, line 29, Oler discloses the performance of these functions.

q. On page 12, lines 9-11 of the Office Action dated March 4, 2004, the Examiner makes the following statement:

"Oler et al. discloses a preamble including forward link parameters at a first station. Once this preamble and data are received at a second station, the second station then uses this same preamble as reverse link parameters." (Underlining supplied.)

Applicant does not perform the underlined functions specified above. Applicant uses the reverse link parameters from each station as the forward link parameters for the other station. This causes claim 34 to be allowable over Oler.

r. Because of its dependency from claim 34, claim 35 is allowable over Oler for the same reasons as claim 34. Claim 35 is additionally allowable over Oler because Oler does not disclose an estimator for estimating parameters for facilitating the recovery at the second station of the signals received at the second station from the first station, the assessor being responsive to the parameters estimated by the estimator for providing the reverse link parameters. Applicant does not believe that the stages 130, 28 and 30 provide the functions recited in claim 35.

10. Applicant notes and appreciates the allowance of claims 29-33.

11. Reconsideration and allowance of the application are respectfully requested.

Respectfully submitted,

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